PATENT SPECIFICATION

DRAWINGS ATTACHED

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917,754

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COMPLETE SPECIFICATION

An improved Paper Feeding Device

We, PARNALL & SONS LIMITED, of Lodge Causeway, Fishponds, Bristol, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a device for feeding single sheets of paper from a stock, the device being of the kind comprising a feed table, means for supporting a stack of paper sheets edgewise on the table and for urging the stack towards drive means including a wheel, belt or equivalent member located adjacent the forward edge of the table for frictional engagement with the face of the leading sheet of the stack to feed said leading sheet through a gap between the drive means and the forward table edge.

The invention consists of a device for feeding single sheets of paper of the kind hereinbefore specified comprising a feed table inclined upwardly towards the gap between the edge of the table and the drive means, a plurality back plates for supporting a plurality of stacks of paper sheets edgewise at right angles to the feed table, each back plate being slidably and pivotally mounted on a respective slideway for linear movement along the feed table and angular movement transverse to the table, and constant tension means urging each back plate towards the forward edge of the feed table.

Preferred means for carrying the invention into practice will now be described with reference to the accompanying drawings wherein:—

Figure 1 is a perspective view of a paper feeding device according to the invention, and Figure 2 is a schematic section of certain parts of the device seen in Figure 1.

As seen in the drawings the leading edge A of a feed table 3 is secured on and between a spaced pair of vertical frame members 4 and the feed table is supported adjacent its opposite end by one or more legs 5 the length whereof is adjustable whereby the inclination of the table 3 may be varied, it being understood however that the table is always inclined upwardly towards the leading edge A.

A stack of paper sheets 5 is supported edgewise on the feed table 3 by means of a back plate 6 mounted on a slideway 7 with the back plate maintained in a substantially perpendicular position with respect to the table top 3 though capable of being swung sideways about the slideway. The back plate is urged upwardly towards the leading edge A of the table by a constant tension spiral spring 8 mounted on one frame member 4 and connected to a lug 9 secured to the back plate. As shown in Figure 1 two back plates 6, 6a are independently and pivotally mounted one behind the other on separate slideways one on each side of the table 3, with respective tension springs also disposed one adjacent each slideway, to admit of the loading of a second stack 5a whilst a first stack is being processed.

Located in front of the leading edge A of the feed table is drive means comprising two parallel transverse shafts 10 and 11 rotatably mounted in bearings 12 and 13 in the pair of frame members 4. The lower shaft 11 is driven from an electric motor (not shown) via pulley wheels and belt (not shown) and carries a spaced pair of rubber or like resilient wheels 14 the peripheries whereof lie one paper thickness away from the leading edge A of the feed table. The lower shaft carries a driving pulley 15 which is coupled by a belt 16 and spring loaded belt tensioning pulley 16a to a driven pulley 17 mounted on the superposed shaft 10. The shaft 10 carries a rubber wheel 18 with the rearmost parts of the peripheries of the wheels 14 and 18 located in a plane parallel with that of the paper sheets.

Preferably one or more guard fingers 19 are dependently mounted on a cross member

[*Price 4s. 6d.*]

20 of the frame in order to maintain a flat condition of the leading paper sheet 5^1 when engaged by the drive means, and an arcuate guide plate 21 is mounted beneath the leading edge of the feed table 3 to facilitate delivery of the paper sheet from the device.

In operation a stack of paper sheets of substantially equal thickness is disposed edgewise on the table top 3 and is urged towards the drive means by the back plate 6 and the constant tension spring 8 so that the leading paper sheet 5^1 is brought into frictional engagement with the wheels 14 and 18 rotating with the lower and upper driven shafts 11 and 10 whereby the leading sheet 5^1 is traversed through the gap which obtains between the leading edge A of the feed table and the rearmost parts of the peripheries of the lower pair of wheels 14, the dimensions of the gap being such that only a single sheet is admitted at one time.

It will be appreciated that the precise gap between the leading edge A of the feed table and the wheels 14 and the upward inclination of the feed table must be determined by experiment to suit the characteristics of a particular grade of paper being handled.

WHAT WE CLAIM IS:—

1. A device for feeding single sheets of paper of the kind hereinbefore specified comprising a feed table inclined upwardly towards the gap between the edge of the table and the drive means, a plurality of back plates for supporting a plurality of stacks of paper sheets edgewise at right angles to the feed table, each back plate being slidably and pivotally mounted on a respective slideway for linear movement along the feed table and angular movement transverse to the table, and constant tension means urging each back plate towards the forward edge of the feed table.

2. A feed device according to claim 1 wherein the drive means comprises a plurality of wheels located adjacent the leading edge of the feed table and at least one wheel mounted above the first mentioned wheels.

3. A feed device according to claim 1 or 2 incorporating guide fingers for preserving a flat condition of the leading paper sheet engaged by the drive means.

4. A device for feeding single sheets of paper substantially as described and illustrated in the accompanying drawings.

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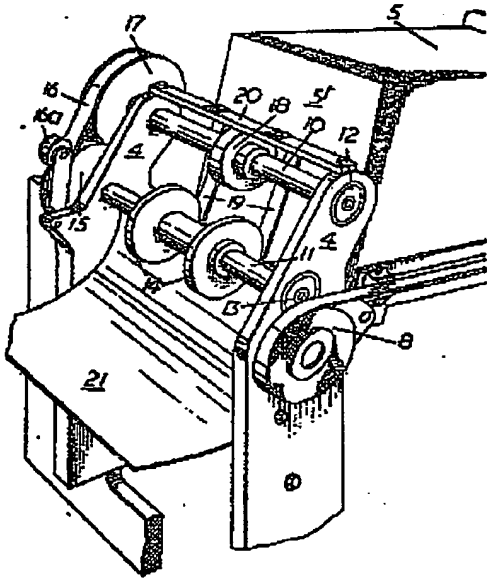

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1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

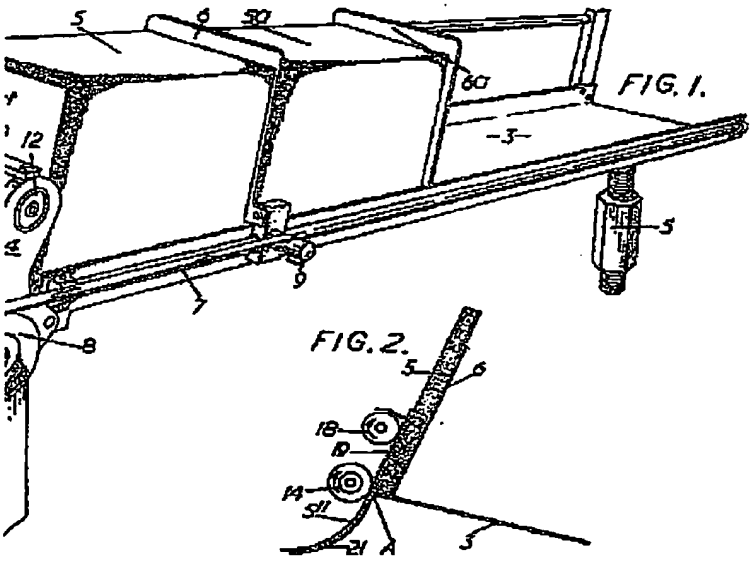

FIG. 1.

FIG. 2.

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